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(54) **POLYGLYCEROL COMPOSITION AND
PRODUCTION THEREOF**

(57) Abstract:

PURPOSE: To obtain the subject composition, having a specific hydroxyl value and excellent in heat resistance and water solubility with a specific content of monomer and lower content of dimer than that of trimer by subjecting glycerol to dehydrating condensation in the presence of a catalyst under specific conditions.

CONSTITUTION: A catalyst, preferably an alkaline catalyst is added to glycerol and reaction is preferably carried out at $\leq 240^{\circ}\text{C}$, preferably at $220\text{--}235^{\circ}\text{C}$ tem-

perature under $\leq 759\text{mmHg}$ pressure to afford a polyglycerol composition, consisting of a mixture of glycerol polymer having 845-1015 hydroxyl value and $\leq 2\%$ content of glycerol (monomer) in the aforementioned mixture and a content of diglycerol (dimer) lower than that of triglycerol (trimer). Since the content of low-molecular weight substance, such as mono- to diglycerols, or cyclic substances, is low with a narrow molecular weight distribution, the aforementioned composition is good in heat resistance, excellent in water solubility and useful as a humectant, thickener, plasticizer or a raw material for surfactants, etc.

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